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~~13. A method for inhibiting cancer metastasis formation in a patient in need thereof, the method comprising administering to the patient a cancer metastasis formation inhibiting effective amount of N-acetyl-cysteine and doxorubicin.~~

14. The method according to claim 13, wherein the N-acetyl-cysteine is administered in an amount between 100 mg and 6 g per day.

15. The method according to claim 13, wherein the doxorubicin is administered in an amount between 1 and 50 mg per dose.--

---

#### **REMARKS**

Claims 10-12 are currently pending. In this Response, applicants cancel claims 10-12 and add new claims 13-15. Claims 13-15 are presented for reconsideration.

Claims 10-12 are rejected under 35 USC §102(b) as being anticipated by Myers, Jr. (U.S. Patent No. 4,331,648) or Doroshov (1981) or Myers (1983) or Freeman (1980). The Examiner takes the position that each of the cited references discloses the use of doxorubicin and N-acetyl-cysteine in the treatment of cancer in dosage ranges that overlap with the ranges claimed in the present case. The Examiner admits that these references teach the use of N-acetyl-cysteine to reduce the cardiotoxicity of the doxorubicin administered for cancer treatment. However, the Examiner takes the position, because the dosages of doxorubicin and N-acetyl-cysteine claimed by applicant and used in the prior art overlap, the claimed method would be inherent in the prior art methods.


be inhibited by administering doxorubicin and N-acetyl-cysteine. Thus, those of skill in the art would not have administered these compounds to a patient in need of cancer metastasis formation inhibition before the present invention. The present invention is no more "inherent" in the treatments disclosed in the references than any other "second medical use". The fact that countless U.S. Patents have issued on second medical uses shows that the Examiner's "inherency" argument is flawed.

The issue in the present case is whether any reference show that cancer metastasis formation can be inhibited in a patient in need thereof by administering the two compounds of the present claims. Clearly, the Examiner has not shown any such evidence. Therefore, the present invention is clearly patentable over the cited references.

In the event this paper is not timely filed, applicants hereby petition for an appropriate extension of time. The fee for this extension may be charged to our Deposit Account No. 01-2300, along with any other additional fees which may be required with respect to this paper.

Respectfully submitted,

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Atty. Docket No. P8903-8035

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Enclosure: Cancer, Principles & Practice of Oncology  
RJB/ccd

In order to more clearly point out the differences between the present invention and the cited references, applicants have canceled claims 10-12 and have added new claims 13-15. As the Examiner can see, the new claims are directed to methods for inhibiting cancer metastasis formation in a patient in need thereof. This change in claim language clearly distinguishes the present invention from the cited references.

Applicants note that each of the cited references teach the administration of doxorubicin and N-acetyl-cysteine to cancer patients. However, it is clear that in each of these references, doxorubicin is administered for the treatment of tumors and N-acetyl-cysteine is administered to protect against cardiac damage. See column 2, lines 1-31 of Myers, Jr.; page 1053 of Doroshow; page 53 of Myers; and page 168 of Freeman.

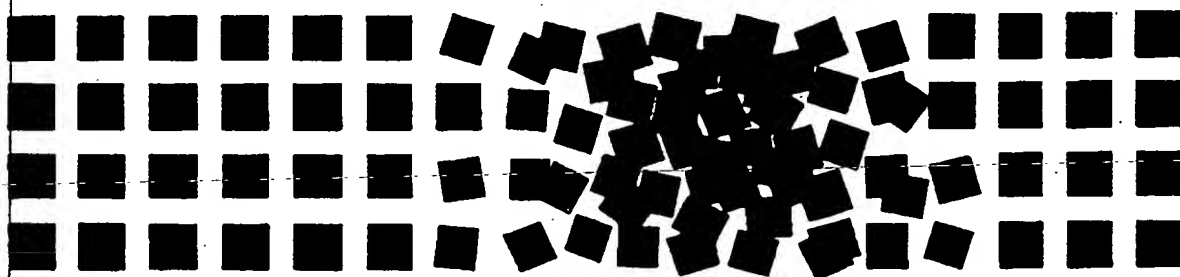
The treatment of cancer metastasis is different than the treatment of cancer tumors. See, for example, the attached copy of the Table of Contents from the book *Cancer, Principles & Practice of Oncology*. As the Examiner can see, chapters 8 and 61 are completely dedicated to the principles and treatment of metastatic cancer, while chapters 22-49 deal with cancer tumors.

Normally there is absolutely no correlation between successful treatment of cancer metastasis and successful treatment of cancer tumors with the same agent. Agents which are useful in preventing the spread of cancer (i.e., cancer metastasis) are not necessarily useful for the treatment of a tumor (e.g., to shrink the size of the tumor).

As the Examiner knows, the discovery of a new use for a known composition based on unknown properties of the composition is patentable to the discoverer of the method of use. See, for example *In re Hack*, 114 USPQ 161 (CCPA 1957). In this case, before the present invention, there was absolutely no evidence that cancer metastasis formation could

# ***CANCER***

## *Principles & Practice of Oncology*



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The authors and publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new or infrequently employed drug.

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